What is claimed is:

1. A heat exchanger comprising:

a first heat dissipation mechanism having a first heat dissipation capacity;

a second heat dissipation mechanism having a second heat dissipation capacity;

at least one heat transfer mechanism thermally coupling the first heat dissipation mechanism and the second heat dissipation mechanism to a heat generating component, the at least one heat transfer mechanism having a limited conductivity portion in a thermal path to one of the first and second heat dissipation mechanisms.

2. The heat exchanger of claim 1 wherein the at least one heat transfer mechanism has a first thermal path and a second thermal path which have respectively a first and a second thermal conductance proportional to the first and the second heat dissipation capacity.

3. The heat exchanger of claim 1 wherein the at least one heat transfer mechanism comprises:

a heat pipe thermally coupled to the heat generating component; and

a heat transfer block which forms the limited conductivity portion, the heat transfer block being thermally coupled to the heat generating component.

4. The heat exchanger of claim 3 wherein the heat transfer block is a grooved heat transfer block having a plurality of grooves on a surface which is a part of the second thermal path.

5. The heat exchanger of claim 3 wherein the heat transfer block is a hollow heat transfer block having an outer surface and an internal cavity, the internal cavity containing a material having a lower thermal conductivity than the outer surface of the heat transfer block.

6. The heat exchanger of claim 1 wherein the heat generating component is an integrated circuit having an integrated circuit die, and wherein the at least one heat transfer mechanism includes a heat pipe having a first portion directly attached to the integrated circuit die, and further wherein the heat pipe has a second portion which is a part of the second heat dissipation mechanism and to which a plurality of heat dissipation fins are directly welded.

7. The heat exchanger of claim 1 wherein the at least one heat transfer mechanism comprises:

a variable thermal conductivity heat pipe having a first portion thermally coupled to the heat generating component, a second portion thermally coupled to the first heat dissipation mechanism, and a third portion separated from the first portion and the second portion by the limited conductivity

portion and thermally coupled to the second heat dissipation mechanism.

8. The heat exchanger of claim 1 wherein the at least one heat transfer mechanism has a first thermal path with a first thermal conductivity which couples the heat generating component to the first heat dissipation mechanism and has a second thermal path with a second thermal conductivity which couples the heat generating component to the second heat dissipation mechanism and wherein the first thermal conductivity is at least twice the second thermal conductivity and the first heat dissipation mechanism is an active heat dissipation mechanism.

9. The heat exchanger of claim 8 wherein the heat generating component is a processor and wherein the second thermal conductivity is approximately four times the first thermal conductivity.

10. The heat exchanger of claim 8 wherein the active heat dissipation mechanism is enabled depending on at least the temperature of the heat generating component.

11. The heat exchanger of claim 1 wherein the first heat dissipation mechanism is a fan based heat exchanger and wherein the second heat dissipation mechanism is a thermally conductive plate beneath and substantially parallel to a keyboard.

12. The heat exchanger of claim 11 wherein the second heat dissipation capacity is determined in part by a maximum acceptable operating temperature for the keyboard.

13. A system comprising:

an electronic component;

a heat pipe thermally coupled to the electronic component;

a fan based heat exchanger thermally coupled to the heat pipe;

a heat transfer block thermally coupled to the electronic component; and

a thermally enhanced keyboard thermally coupled to the heat transfer block.

14. The system of claim 13 wherein the electronic component is a processor having a processor die and a plurality of contacts, and wherein the heat pipe is directly connected to the processor die.

15. The system of claim 13 wherein the thermally enhanced keyboard comprises:

a keyboard; and

a heat dissipation plate affixed beneath and substantially parallel to a substantial portion of the keyboard.

16. The system of claim 13 wherein the thermally enhanced keyboard comprises:

a keyboard; and

at least one flat heat pipe affixed beneath and substantially parallel to a substantial portion of the keyboard.

17. A system comprising:

an electronic component;

a variable thermal conductivity heat pipe having a first portion and a second portion separated by a throttling portion, the electronic component being thermally coupled to the first portion; and

a first heat dissipation mechanism thermally coupled to the first portion of the variable thermal conductivity heat pipe; and

a second heat dissipation mechanism thermally coupled to the second portion of the variable thermal conductivity heat pipe.

18. The system of claim 17 wherein the first heat dissipation mechanism is a fan based heat exchanger including a fan and a plurality of fins which are directly welded to the heat pipe.

19. The system of claim 18 wherein the plurality of fins are directly welded to the heat pipe.

20. The system of claim 18 wherein the plurality of fins are integrally formed with the heat pipe.

21. The system of claim 18 wherein the second heat dissipation mechanism is a heat dissipation plate affixed beneath and substantially parallel to a keyboard.

22. A method of cooling an electronic component comprising:
sensing conditions during operation of the electronic component to determine whether active cooling is needed;
enabling an active heat exchanger if active cooling is needed; and
dissipating heat through a passive heat dissipation plate regardless of whether external power is being supplied.

23. The method of claim 22 wherein the sensing comprises sensing a temperature of the electronic component.

24. The method of claim 23 wherein the sensing further comprises sensing whether external power is being provided.

25. The method of claim 24 wherein the step of enabling comprises:
enabling a fan at a power level dependent on the temperature of the electronic component and whether external power is being supplied.

26. The method of claim 22, further comprising:
transferring heat via a first thermal path having a first thermal conductivity from the electronic component to an active heat dissipation mechanism;

transferring heat via a second thermal path having a second thermal conductivity from the electronic component to the passive heat dissipation mechanism, the first thermal conductivity being at least twice the second thermal conductivity.

Add a2

Add B4